

WHAT IS CLAIMED IS:

1. A purified nucleic acid molecule encoding a coccidian CKI protein.

5 2. A purified nucleic acid molecule of claim 1, wherein said coccidian CKI protein is
of the *Eimeria* genus.

3. A purified nucleic acid molecule of claim 2, wherein said *Eimeria* CKI protein is
from the species *Eimeria tenella*.

10 4. An expression vector for expressing an *E. tenella* CKI protein in a recombinant
host cell wherein said expression vector comprises a nucleic acid molecule of claim 3.

15 5. A recombinant host cell which expresses an *E. tenella* CKI protein wherein said
host cell contains the expression vector of claim 4.

6. A process of expressing an *E. tenella* CKI protein in a recombinant host cell,
comprising:

20 (a) transfected the expression vector of claim 4 in a suitable host cell; and,
(b) culturing the host cells of step (a) under conditions which allow expression of said
E. tenella CKI protein from said expression vector.

7. A purified nucleic acid molecule of claim 1, wherein said coccidian CKI protein is
of the *Toxoplasma* genus.

25 8. A purified nucleic acid molecule of claim 7, wherein said *Toxoplasma* CKI
protein is from the species *Toxoplasma gondii*.

9. An expression vector for expressing a *T. gondii* CKI protein in a recombinant host
30 cell wherein said expression vector comprises a nucleic acid molecule of claim 8.

10. A recombinant host cell which expresses a *T. gondii* CKI protein wherein said
host cell contains the expression vector of claim 9.

11. A process of expressing a *T. gondii* CKI protein in a recombinant host cell, comprising:
(a) transfecting the expression vector of claim 9 in a suitable host cell; and,
(b) culturing the host cells of step (a) under conditions which allow expression of said
5 *T. gondii* CKI protein from said expression vector.

12. A purified nucleic acid molecule encoding a coccidian CKI protein, wherein said protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4 and SEQ ID NO:6.

10 13. An expression vector for expressing a coccidian CKI protein in a recombinant host cell wherein said expression vector comprises a nucleic acid molecule of claim 12.

15 14. A recombinant host cell which expresses a coccidian CKI protein wherein said host cell contains the expression vector of claim 13.

15. A process of expressing a coccidian CKI protein in a recombinant host cell, comprising:
(a) transfecting the expression vector of claim 13 in a suitable host cell; and,
20 (b) culturing the host cells of step (a) under conditions which allow expression of said coccidian CKI protein from said expression vector.

25 16. An isolated nucleic acid molecule encoding a coccidian CKI protein, wherein said nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3 and SEQ ID NO:5.

17. An expression vector for expressing a coccidian protein in a recombinant cell where in said expression vector comprises a nucleic acid molecule of claim 16.

30 18. A recombinant host cell which expresses a coccidian CKI protein wherein said host cell contains the expression vector of claim 17.

19. A process of expressing a coccidian CKI protein in a recombinant host cell, comprising:
35 (a) transfecting the expression vector of claim 17 into a suitable host cell; and

(b) culturing the host cells of step (a) under conditions which allow expression of said coccidian CKI protein from said expression vector.

20. A purified nucleic acid molecule encoding a coccidian CKI protein, wherein said nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of:

5 (a) a nucleotide sequence which encodes an amino acid sequence as set forth in SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6;

(b) a nucleotide sequence which hybridizes under conditions of moderate to high stringency to the complement of a second nucleic acid molecule which encodes an amino acid 10 sequence as set forth in SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6; and,

(c) a nucleotide sequence which hybridizes under conditions of moderate stringency to the complement of a second nucleic acid molecule as set forth in SEQ ID NO:1, SEQ ID NO:3 or SEQ ID NO:5; and,

15 wherein said nucleic acid molecule encodes an amino acid sequence that has at least about 80% identity to at least one of the amino acid sequences as set forth in SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6.

21. An expression vector for expressing a coccidian CKI protein in a recombinant host cell where in said expression vector comprises a nucleic acid molecule of claim 20.

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22. A recombinant host cell which expresses a coccidian CKI protein wherein said host cell contains the expression vector of claim 21.

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23. A process of expressing a coccidian CKI protein in a recombinant host cell, comprising:

(a) transfecting the expression vector of claim 21 into a suitable host cell; and,
(b) culturing the host cells of step (a) under conditions which allow expression of said coccidian CKI protein from said expression vector.

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24. A coccidian CKI protein substantially free from other proteins.

25. A coccidian CKI protein of claim 24, wherein said protein is of the *Eimeria* genus.

26. A coccidian CKI protein of claim 25, wherein said *Eimeria* CKI protein is from the species *Eimeria tenella*.

27. A substantially purified *E. tenella* protein of claim 26 which is a product of a 5 DNA expression vector contained within a recombinant host cell.

28. A coccidian CKI protein of claim 24, wherein said protein is of the *Toxoplasma* genus.

10 29. A coccidian CKI protein of claim 28, wherein said *Toxoplasma* CKI protein is from the species *Toxoplasma gondii*.

30. A substantially purified *T. gondii* protein of claim 29 which is a product of a DNA expression vector contained within a recombinant host cell.

15 31. A substantially purified coccidian CKI protein which comprises an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4 and SEQ ID NO:6.

32. A substantially purified coccidian CKI protein of claim 31 which is a product of a 20 DNA expression vector contained within a recombinant host cell.

33. A substantially purified coccidian CKI protein, wherein said protein comprises at least about 80% amino acid sequence identity with an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4 and SEQ ID NO:6.

25 34. A substantially purified coccidian CKI protein of claim 33 which is a product of a DNA expression vector contained within a recombinant host cell.

35. A method of identifying a test compound which modulates a coccidian CKI 30 protein, comprising:

- (a) contacting a test compound with a coccidian CKI protein; and,
- (b) measuring the modulating effect of the test compound on said coccidian CKI protein.

36. A method of claim 35, wherein said coccidian CKI protein is of the *Eimeria* 35 genus.

37. A method of claim 35, wherein said coccidian CKI protein is of the *Toxoplasma* genus.